

IN THE CLAIMS:

Please amend the claims as set forth below:

1. (Currently Amended) A component comprising:

one or more integrated circuits; and

a component package to which the one or more integrated circuits are coupled, the component package having a bottom comprising a plurality of conductors for providing signal connection to the one or more integrated circuits, a top to which the one or more integrated circuits are coupled, and a plurality of sides, wherein at least one of the plurality of sides includes at least one power pad for providing a power supply voltage to the one or more integrated circuits and wherein at least one of the plurality of sides includes at least one ground pad for providing a ground to the one or more integrated circuits, wherein both the at least one power pad and the at least one ground pad are exposed for direct physical contact with conductors external to the component package to supply the power supply voltage and the ground to the one or more integrated circuits during use.

2. (Original) The component as recited in claim 1 wherein the component package comprises one or more power planes and one or more ground planes, wherein each of the power planes is coupled to the power pad and each of the ground planes is coupled to the ground pad.

3. (Currently Amended) The component as recited in claim 2 ~~claim 1~~, wherein each of the power planes is insulated from the ground pad, and wherein each of the ground planes is insulated from the power pad.

4. (Original) The component as recited in claim 2 wherein the component package comprises a circuit board, and wherein the power planes and the ground planes comprise

layers in the circuit board.

5. (Original) The component as recited in claim 1 wherein each of the plurality of sides includes at least one pad.

6. (Original) The component as recited in claim 5 wherein each of the plurality of sides includes at least one power pad and at least one ground pad.

7. (Currently Amended) An apparatus comprising:

a component comprising one or more integrated circuits and a component package to which the one or more integrated circuits are coupled, the component package having a bottom comprising a plurality of conductors for providing signal connection to the one or more integrated circuits, a top to which the one or more integrated circuits are coupled, and a plurality of sides, wherein at least one of the plurality of sides includes at least one power pad for providing a power supply voltage to the one or more integrated circuits and wherein at least one of the plurality of sides includes at least one ground pad for providing a ground to the one or more integrated circuits; and

a circuit board configured to be placed over a top of the component, the circuit board including a bottom side that faces the component during use, the bottom side of the ~~second~~ circuit board comprising a first plurality of conductive pads to be electrically coupled to the power and ground pads on the component to supply power and ground connection to the component.

8. (Original) The apparatus as recited in claim 7 wherein the circuit board includes a portion that extends beyond a first edge of the component.

9. (Original) The apparatus as recited in claim 7 further comprising a power supply module arranged to a side of the component, the first edge being nearest the power supply module.

10. (Original) The apparatus as recited in claim 9 further comprising a second circuit board coupled to the plurality of conductors, the second circuit board including conductors for signal communication with the component.

11. (Original) The apparatus as recited in claim 10 wherein the power supply module is coupled to the second circuit board, the second circuit board supplying power to the power supply module during use.

12. (Original) The apparatus as recited in claim 11 wherein the power supply module is further coupled to receive one or more signals generated by the component indicating the magnitude of the power supply voltage to be supplied to the component, wherein the one or more signals communicated from the component through the second circuit board to the power supply module.

13. (Original) The apparatus as recited in claim 12 wherein the power supply module is coupled to receive one or more remote voltage sense signals conveying the power supply voltage received by the component as feedback to generate the power supply voltage, wherein the remote voltage sense signals are communicated through the second circuit board.

14. (New) An apparatus for supplying power and ground connection to a component that is to be coupled to a first circuit board during use, the first circuit board including conductors for signal communication with the component, wherein a power supply module is also coupled to the first circuit board during use, the power supply module arranged to a side of the component during use, the apparatus comprising:

a second circuit board configured to be placed over a top of the component,

wherein signal connection between the first circuit board and the component is made with a bottom of the component during use, the second circuit board including a bottom side that faces the component during use, the bottom side of the second circuit board comprising a first plurality of conductive pads to be electrically coupled to a corresponding second plurality of conductive pads on the component, the second plurality of conductive pads supplying power and ground connection to the component during use, and wherein the second circuit board is configured to be coupled to the power supply module during use.

15. (New) The apparatus as recited in claim 14 wherein the second circuit board includes a portion that extends beyond a first edge of the component, the first edge being nearest the power supply module; and wherein the apparatus further comprises:

at least one connector coupled to the portion of the second circuit board that extends beyond the first edge of the component, the connector configured to couple to the power supply module during use.

16. (New) The apparatus as recited in claim 15 wherein the second circuit board comprises:

a first plane that electrically couples the connector to each of the first plurality of conductive pads designated as a power supply pad; and

a second plane that electrically couples the connector each of the first plurality of conductive pads designated as a ground pad.

17. (New) The apparatus as recited in claim 15 wherein a first subset of the first plurality of conductive pads are designated as power supply pads and a second subset of the first plurality of conductive pads are designated as ground pads, and wherein the second circuit board comprises a first plurality of layers, each of the first plurality of layers

comprising a first plurality of planes, and each of the first plurality of planes electrically coupling the connector to a subset of the power supply pads.

18. (New) The apparatus as recited in claim 17 wherein the second circuit board comprises a second plurality of layers, each of the second plurality of layers comprising a second plurality of planes, and each of the second plurality of planes electrically coupling the connector to a subset of the ground pads.

19. (New) The apparatus as recited in claim 15 wherein the connector is coupled to a top side of the second circuit board.

20. (New) The apparatus as recited in claim 14 wherein the second circuit board includes an opening formed therein to permit passage of a protrusion of a heat sink used for the component.

21. (New) The apparatus as recited in claim 14 further comprising a second connector configured to make electrical connection between the first plurality of conductive pads and the second plurality of conductive pads.

22. (New) The apparatus as recited in claim 21 wherein the second connector is affixed to the first plurality of conductive pads and exerts a force against the second plurality of pads during use to provide the electrical connection.

23. (New) The apparatus as recited in claim 14 wherein the second circuit board includes a portion that extends beyond a first edge of the component, and wherein the power supply module is coupled to the portion.

24. (New) The apparatus as recited in claim 14 further comprising the component and the power supply module.

25. (New) The apparatus as recited in claim 24 wherein a first set of one or more signals

output by the component and communicated through the first circuit board to the power supply module indicate a magnitude of a power supply voltage to be supplied to the component, during use.

26. (New) The apparatus as recited in claim 25 wherein a second set of one or more signals output by the component and communicated through the first circuit board to the power supply module provide a measurement of the voltage supplied to the component during use, as feedback to providing the magnitude indicated by the first set of one or more signals.

27. (New) The apparatus as recited in claim 24 wherein, during use, a heat sink is placed over the component and the second circuit board, and wherein the power supply module is arranged, during use, outside of an area covered by the heat sink.